



Safety Data Sheet

1. Identification of the substance/mixture and of the responsible company

1.1. Product Name: GEOTHERMAL-M, Heat Transfer Fluid

1.2. Relevant identified uses of the substance or mixture and uses advised against:

Stock No.'s: 01-159, 01-160, 01-300, 01-301

1.3. Details of the supplier of the safety data sheet:

ComStar Int'l Inc.
20-45 128 Street
College point, NT 11356

Website: www.comstarproducts.com

1.4. Emergency telephone number (800) 328-0142, 718-445-7900

2. Hazards Identification

Methanol CAS 67-56-1 Purity: 99.5% minimum
Trace Impurities: Acetone and aldehydes < 30 ppm, acetic acid Max.30mg/kg, Ethanol(%w/w) Max.50mg/kg, Water(%w/w) Max.0.1

2.1. Classification of the substance or mixture:

Classification of Labeling in accordance with the CLP Regulations:

Index No	International Chemical Identification	EC No	CAS No	Classification		Labeling			Specific Conc. Limits, M-factors	Notes
				Hazard Class and Category Code(s)	Hazard statement Code(s)	Pictogram Signal Word Code(s)	Hazard Statement Code(s)	Suppl. Hazard statement Code(s)		
	Methyl alcohol Corrosion & particle suspension pkg	200-659-6 Proprietary	67-56-1 N/A	Flam. Liq. 2 Acute Tox. 3 (Oral) Acute Tox. 3 (Dermal) Acute Inh. Tox. 3 STOT SE 1 N/A	F T; R:11-23/24 /25-39/23/24/25		H225 H301 H311 H331 H370		100	

Classification according to Regulation 1272/2008/EC (CLP)

Basis for Classification This substance is classified based on Directive 1272/2008/EC and its amendments (CLP Regulation, GHS)

METHYL ALOHOL (67-56-1)

Symbol(s):



Signal Word: Danger

Hazard(s):

H225: Highly flammable liquid and vapor

H301: Toxic if swallowed

H311: Toxic in contact with skin

H331: Toxic if inhaled

H370: Causes damage to organs

Prevention:

P233: Keep container tightly closed.

P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P240: Ground/Bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting/.../equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P260: Do not breathe dust/fume/gas/mist/vapors/spray.

P264: Wash ... thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

Response:

P308+P313: IF exposed or concerned: Get medical advice/attention.

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P311: Call a POISON CENTER or doctor/physician. **P302+P352:** IF ON SKIN: Wash with plenty of soap and water. **P303+P361+P353:** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P321: Specific treatment (see ... on this label).

P330: Rinse mouth.

P370+P378: In case of fire: Use ... for extinction.

Storage:

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P403+P235: Store in a well-ventilated place. Keep cool.

P405: Store locked up.

Disposal:

P501: Dispose of contents/container to ...

SAFETY DATA SHEET

Emergency overview: DANGER! Flammable liquid and vapor. Poison, may be fatal or cause blindness if swallowed. Cannot be made non-poisonous. Vapor harmful. Toxic by inhalation, in contact with skin and if swallowed. Irritating to eyes and skin. May cause irritation of respiratory tract. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

Potential chronic health effects:

CARCINOGENIC EFFECTS:	Low carcinogenicity potential.
MUTAGENIC EFFECTS:	See Section 12. Mutagenic effects reported.
REPRODUCTION TOXICITY:	See Section 12. Reproductive effects reported.

2.2. Label: See table above.

2.3. Other hazards: None known.

3. Composition/information on ingredients

Formula	CH ₃ OH
CAS-No.	67-56-1
Index-No.	603-001-00-X
EC-No.	200-659-6
Mol Wt.	32.04 g/mol

4. First Aid Measures

4.1. Description of first aid measures

Eye Contact: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation: Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion: Wash out mouth and water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed:

Irritant effects, drowsiness, dizziness, narcosis, nausea, vomiting, headache, blindness, vision impairment, coma. Drying and defatting of skin.

4.3. Indication of immediate medical attention and special treatment needed:

No additional information available.

5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Use dry chemical, CO₂, water spray (fog) or alcohol resistant foam

Unsuitable extinguishing media: None noted.

5.2. Special hazards arising from the substance or mixture:

Flammable. In a fire or if heated, a pressure increase will occur and the container may burst, with risk of subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Acidic gases formed. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

5.3. Advice for fire fighters:

Special protective equipment for fire fighters: Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Further information: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving a personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Do not allow fire extinguishing water to contaminate surface or groundwater systems.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

Advice for non-emergency personnel: Evacuate the danger zone; follow emergency precautions. Secure emergency assistance immediately. Avoid contact with the material; do not breathe vapors or aerosol. If possible, provide additional ventilation.

Advice for emergency responders: Do not take action without proper training and emergency equipment. See Section 8 for additional information. Evacuate surrounding areas. Eliminate all ignition sources including flares and all open flames. Avoid all contact with spillover material. Maintain adequate ventilation and wear appropriate respiratory protection.

6.2. Environmental precautions:

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3. Methods and materials for containment:

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, surface waters, basements or confined areas. Wash spillage into effluent treatment plant. Contain and collect spillage using appropriate personal protective equipment. Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products or if a risk assessment indicates this is necessary. Collect and contain spillage with non-combustible, absorbent material (e.g. sand, earth, vermiculite or diatomaceous earth) and place in a container for disposal according to local regulations. Use spark-proof tools and explosion proof equipment. Contaminated absorbent material may pose the same hazard(s) as the spilled product.

6.4. Reference to other sections:

See disposal instruction 13 and exposure controls Section 8.

7. Handling and storage

7.1. Precautions for safe handling:

Observe all label precautions. Use appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on protection against fire and explosion: Keep away from flames and sources of ignition – including static.

7.2. Conditions for safe storage, including any incompatibilities:

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3. Specific end uses:

No other additional special end uses are anticipated.

8. Exposure controls/personal protection

8.1. Control parameters:

Personal, workplace or environmental monitoring may be necessary to ensure exposures are below recommended and legal limits.

Exposure limits:

ACGIH: 200 ppm TWA

250 ppm STEL

Skin - potential significant contribution to overall exposure by the cutaneous route

NIOSH: 200 ppm TWA; 260 mg/m³ TWA

250 ppm STEL; 325 mg/m³

STEL Potential for dermal absorption

6000 ppm IDLH

Europe: 200 ppm TWA; 260 mg/m³ TWA

Possibility of significant uptake through the skin

OSHA (US): 200 ppm TWA; 260 mg/m³ TWA

Mexico: 200 ppm TWA LMPE-PPT; 260 mg/m³ TWA LMPE-PPT

250 ppm STEL [LMPE-CT]; 310 mg/m³ STEL [LMPE-CT]

Skin - potential for cutaneous absorption

Exposure Limits for Chemicals which may be generated during processing

This material has no components listed.

8.2. Exposure controls:

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Engineering measures: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures:

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Discard contaminated clothing or wash thoroughly before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is required.

Glove material: butyl rubber
Glove thickness: 0.7 mm or thicker
Break through time: > 240 minutes

Other protective equipment: Flame retardant antistatic protective clothing

Respiratory protection: A properly fitted air purifying respirator or air supply respirator should be worn if a risk assessment indicates that respiratory protection is necessary. Respirator selection must be based upon known or measured levels of exposure.

Environmental exposure controls: Ventilation and engineering controls to protect workers and ventilate work area to at or below recommended employee exposure levels. Technical measures are preferred over use of personal protective equipment. Environmental controls, such as scrubber or thermal oxidizer may be required to prevent process releases to the atmosphere. Do not empty into drains—risk of explosion.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties:

Physical State: Liquid	Appearance: clear
Color: colorless	Physical Form: liquid
Odor: alcohol odor	Odor Threshold: 100 ppm
pH: Not available	Melting Point: -94 °C
Boiling Point: 65 °C	Evaporation Rate: 4.6 butyl acetate=1
Flash Point: 11 °C CC	LEL: 6.0 %
OSHA Flammability Class: IB	UEL: 36.0 %
Autoignition: 385 °C	Vapor Pressure: 97.25 mmHg 20 °C
Vapor Density (air = 1): 1.11	Density: Not available
Specific Gravity (water = 1): 0.7914	Water Solubility: soluble
Coeff. Water/Oil Dist: Not available	Viscosity: 0.59 cP 20 °C
Volatility: 100 % by volume	Molecular Weight: 32.04
Molecular Formula: C-H3-O-H	

Solvent Solubility

Soluble: ether, benzene, alcohol, acetone, chloroform, ethanol, ketones, organic solvents

10. Stability and reactivity

10.1. Reactivity:

Will not polymerize. Vapors may form explosive mixture with air.

10.2. Chemical stability:

Stable at normal temperature and pressures.

10.3. Possibility of hazardous reactions:

Will not polymerize. May decompose, exotherm or catch fire with mixed with incompatible materials.

10.4. Conditions to avoid:

Avoid heat, flames, sparks and other sources of ignition. Minimize contact with material. Avoid inhalation of material or combustion by-products. Keep out of water supplies and sewers. Do not store at elevated temperatures.

- 10.5. Incompatible materials:
Halocarbons, combustible materials, metals, oxidizing materials, halogens, metal carbide, bases, acids, amines.
- 10.6. Hazardous decomposition products:
Carbon oxides.

11. Toxicological information

- 11.1. Information on toxicological effects:
- | | |
|--|---|
| <u>Acute oral toxicity</u> LD50 rat: | 5628 mg/kg (IUCLID) |
| <u>Acute oral LDLO human:</u> | 143 mg/kg (RTECS) |
| <u>Acute inhalation toxicity:</u> | 64000 ppm 4 hours (RTECS) |
| <u>Acute dermal toxicity</u> LD50 rabbit: | 15800 mg/kg (RTECS) |
| <u>Skin irritation:</u> | Irritation, may cause burns on long term exposure |
| <u>Eye irritation:</u> | Risk of serious damage to eyes. Risk of blindness. |
| <u>Genotoxicity in vitro:</u> | |
| Ames test: | negative (IUCLID) |
| Mutagenicity: | numerous endpoints reported in RTECS indicate mutagenicity and developmental effects in various species of bacteria, rats, and mice via oral, dermal, inhalation and intraperitoneal routes and levels of exposure. |
| <u>Specific target organ toxicity - single exposure:</u> | Central nervous system |
| <u>Specific target organ toxicity - repeated exposure:</u> | Central nervous system. Skin, eye, kidney. |
| <u>Aspiration hazard:</u> | No information available |
- 11.2. Additional information:
Further data: Symptoms may be delayed. Handle using good occupational and environmental health practices.

12. Ecological information

- 12.1. Toxicity
- | | |
|---|--|
| <u>Toxicity in fish LC50:</u> | 15400 mg/L (ECOTOX: 96 hour, Bluegill sunfish) |
| <u>Toxicity to daphnia and other aquatic invertebrates:</u> | >10000 mg/L; (IUCLID: 24 hour, Daphnia magna) |
| <u>Toxicity to algae:</u> | 8000 mg/L (IUCLID: 16 hr. Scenedesmus quadricauda) |
| <u>Toxicity to bacteria:</u> | 6600 mg/L (IUCLID: 16 hr. Pseudomonas fluorescens) |
- 12.2. Persistence and degradability:
 Readily biodegradable 99% (OECD Test Guideline 301D , 30 day)
 BOD: 600-1200 mg/g (IUCLID) COD: 1400 mg/g (IUCLID)
- 12.3. Bio accumulative potential:
 Not expected (experimental log Pow: -0.77)

- 12.4. Mobility in soil:
No information available.
- 12.5. Results of PBT and vPvB assessment:
Not classified as PBT or vPvB.
- 12.6. Other adverse effects:
Additional ecological information: Do not allow product to enter surface waters, wastewater or soil. Stability in water reported to be 2.2 years (IUCLID)

13. Disposal considerations

Waste treatment methods: The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Subject to disposal regulations in the U.S.-- EPA 40 CFR 262 Hazardous Waste Number(s): U154.

14. Transport Information

The transport regulations are cited according to international and/or harmonized transport regulations. Possible national deviations and country specific requirements are not considered.

US DOT Information

Shipping Name: Methanol
Hazard Class: 3
UN/NA #: UN1230
Packing Group: II
Required Label(s): 3,3, 6.1

TDG Information

Shipping Name: Methanol Hazard Class: 3
UN #: UN1230
Packing Group: II
Required Label(s): 3, (6.1)

ADR Information

Shipping Name: Methanol Hazard Class: 3
UN #: UN1230
Packing Group: II
Required Label(s): 3, 6.1

ADR Tunnel Code Restrictions

This list contains tunnel restriction codes for those substances and/or chemically related entries which are found in chapter 3.2 of the ADR regulations.

METHYL ALCOHOL (67-56-1) Restriction(s): D/E [UN1230] (II)

RID Information

Shipping Name: Methanol
Hazard Class: 3
UN #: UN1230
Packing Group: II
Required Label(s): 3, 6.1

IATA Information

Shipping Name: Methanol Hazard Class: 3
UN #: UN1230
Packing Group: II
Required Label(s): 3, 6.1

ICAO Information

Shipping Name: Methanol Hazard Class: 3
UN #: UN1230
Packing Group: II
Required Label(s): 3

IMDG Information
Shipping Name: Methanol Hazard Class: 3
UN #: UN1230
Packing Group: II
Required Label(s): 6.1

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture:

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA(40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

METHYL ALCOHOL (67-56-1)

SARA 313: 1.0 % de minimis concentration

CERCLA: 5000 lb final RQ; 2270 kg final RQ

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: Yes **Chronic Health:** Yes **Fire:** Yes **Pressure:** No **Reactive:** No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
METHYL ALCOHOL	67-56-1	Yes	Yes	Yes	Yes	Yes

Not listed under California Proposition 65

Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL.

METHYL ALCOHOL (67-56-1)

1 %

Germany Water Classification

METHYL ALCOHOL (67-56-1)

ID Number 145, hazard class 1 - low hazard to waters

Symbol(s)

F Highly Flammable

T Toxic

Risk Phrases

R11 Highly flammable.

R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

R68/20/21/22 Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

Safety Phrases

S1/2 Keep locked-up and out of the reach of children.

S7 Keep container tightly closed.

S16 Keep away from sources of ignition - No smoking.

S36/37 Wear suitable protective clothing and gloves.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
METHYL ALCOHOL	67-56-1	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

Globally Harmonized System of Classification and Labeling (GHS)

The listed component(s) of this material have been checked for country-specific published classifications according to the Globally Harmonized System of Classification and Labeling (GHS).

European Union GHS Classifications

Classifications below according to Regulation (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures (CLP).

METHYL ALCOHOL (67-56-1)

Flammable liquids -	Category 2	H225 Highly flammable liquid and vapor.
Acute toxicity - Oral -	Category 3	H301 Toxic if swallowed.
Acute toxicity - Dermal -	Category 3	H311 Toxic in contact with skin.
Acute toxicity - Inhalation -	Category 3	H331 Toxic if inhaled.
Specific target organ toxicity-Category 1		H370 Causes damage to organs.

European Union GHS Labeling Information

Labeling information below is according to Regulation (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures (CLP).

METHYL ALCOHOL (67-56-1) Symbol(s):



Signal Word: Danger

Hazard(s):

H225: Highly flammable liquid and vapor

H301: Toxic if swallowed

H311: Toxic in contact with skin

H331: Toxic if inhaled

H370: Causes damage to organs

Prevention:

- P233:** Keep container tightly closed.
- P210:** Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P240:** Ground/Bond container and receiving equipment.
- P241:** Use explosion-proof electrical/ventilating/lighting.../equipment.
- P242:** Use only non-sparking tools.
- P243:** Take precautionary measures against static discharge.
- P271:** Use only outdoors or in a well-ventilated area.
- P280:** Wear protective gloves/protective clothing/eye protection/face protection.
- P260:** Do not breathe dust/fume/gas/mist/vapors/spray.
- P264:** Wash ... thoroughly after handling.
- P270:** Do not eat, drink or smoke when using this product.

Response:

- P308+P313:** IF exposed or concerned: Get medical advice/attention.
- P304+P340:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P311:** Call a POISON CENTER or doctor/physician.
- P302+P352:** IF ON SKIN: Wash with plenty of soap and water. **P303+P361+P353:** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P301+P310:** IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P321:** Specific treatment (see ... on this label).
- P330:** Rinse mouth.
- P370+P378:** In case of fire: Use ... for extinction.

Storage:

- P403+P233:** Store in a well-ventilated place. Keep container tightly closed.
- P403+P235:** Store in a well-ventilated place. Keep cool.
- P405:** Store locked up.

Disposal:

- P501:** Dispose of contents/container to ...

Japan GHS Classifications

Classifications below published under Japan's Chemicals Classification Program according to the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

METHYL ALCOHOL (67-56-1)

- | | |
|---|--|
| Flammable liquids - Category 2 | H225 Highly flammable liquid and vapor. |
| Acute toxicity - Oral - Category 4 | H302 Harmful if swallowed. |
| Serious eye damage/eye Irritation Category2A | H319 Causes serious eye irritation. |
| Toxic to reproduction - Category 1B | H360 May damage fertility or the unborn child. |
| Specific target organ toxicity/Single exposure Category 1 | H370 Causes damage to central nervous system, retina, and/or systemic toxicity. |
| Specific target organ toxicity/Single exposure Category 3 | H335 May cause respiratory irritation. |
| Specific target organ toxicity/Single exposure Category 3 | H336 May cause drowsiness or dizziness. |

Specific target organ toxicity/Repeated exposure Category 1 **H372** Causes damage to central nervous system and/or retina through prolonged or repeated exposure.

Japan GHS Labeling Information

Labeling information below according to classifications published by Japan's Chemicals Classification Program according to the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

METHYL ALCOHOL (67-56-1) Symbol(s):



Signal Word: Danger

Hazard(s):

H225: Highly flammable liquid and vapor

H302: Harmful if swallowed

H319: Causes serious eye irritation

H360: May damage fertility or the unborn child

H370: Causes damage to organs **H335:**

May cause respiratory irritation **H336:**

May cause drowsiness or dizziness

H372: Causes damage to organs through prolonged or repeated exposure

Prevention:

P233: Keep container tightly closed.

P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P240: Ground/Bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting/.../equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P260: Do not breathe dust/fume/gas/mist/vapors/spray.

P264: Wash ... thoroughly after handling.

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P270: Do not eat, drink or smoke when using this product.

Response:

P308+P313: IF exposed or concerned: Get medical advice/attention.

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical advice/attention.

P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P321: Specific treatment (see ... on this label).

P330: Rinse mouth.

P370+P378: In case of fire: Use ... for extinction.

Storage:

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P403+P235: Store in a well-ventilated place. Keep cool.

P405: Store locked up.

Disposal:

P501: Dispose of contents/container to ...

Korea GHS Classifications (SV)

Classifications below published by Korea's Ministry of Environment (MOE), Ministry of Employment and Labor (MOEL) or Office of National Emergency Management (NEMA, physical hazards only).

METHYL ALCOHOL (67-56-1)

MOE:	Flammable liquids - Category 2	H225 Highly flammable liquid and vapor.
	Acute toxicity - Oral - Category 3	H301 Toxic if swallowed.
	Acute toxicity - Dermal - Category 3	H311 Toxic in contact with skin.
	Acute toxicity - Inhalation - Category 3	H331 Toxic if inhaled.
	Serious eye damage/eye Irritation - Category 2	H319 Causes serious eye irritation.
	Specific target organ toxicity/Single exposure Category 1	H370 Causes damage to organs.
MOEL:	Flammable liquids - Category 2	H225 Highly flammable liquid and vapor.
	Serious eye damage/eye Irritation - Category 2	H319 Causes serious eye irritation.
	Reproductive Toxicity - Category 2	H361 Suspected of damaging fertility or the unborn child.
	Specific target organ toxicity/Single exposure Category 1	H370 Causes damage to body, central nervous system, and/or optic nerve.
	Specific target organ toxicity/Single exposure Category 3	H335 May cause respiratory irritation.
	Specific target organ toxicity/Single exposure Category 3	H336 May cause drowsiness or dizziness.
NEMA:	Flammable liquids - Category 2	H225 Highly flammable liquid and vapor.
	Specific target organ toxicity/Repeated exposure Category 1	H372 Causes damage to central nervous system and/or eyes through prolonged or repeated exposure.

Korea GHS Labeling Information

Labeling information below according to classifications published by Korea's Ministry of Environment (MOE), Ministry of Employment and Labor (MOEL) or Office of National Emergency Management (NEMA, physical hazards only).

METHYL ALCOHOL (67-56-1)

Symbol(s):



Signal Word: Danger

Hazard(s):

H225: Highly flammable liquid and vapor

H301: Toxic if swallowed

H311: Toxic in contact with skin

H331: Toxic if inhaled

H319: Causes serious eye irritation

H370: Causes damage to organs **Prevention:**

P233: Keep container tightly closed.

P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P240: Ground/Bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting/.../equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P260: Do not breathe dust/fume/gas/mist/vapors/spray.

P264: Wash ... thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

Response:

P308+P313: IF exposed or concerned: Get medical advice/attention.

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P311: Call a POISON CENTER or doctor/physician.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical advice/attention.

P302+P352: IF ON SKIN: Wash with plenty of soap and water. **P303+P361+P353:** IF ON SKIN (or hair):

Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P321: Specific treatment (see ... on this label).

P330: Rinse mouth.

P370+P378: In case of fire: Use ... for extinction.

Storage:

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P403+P235: Store in a well-ventilated place. Keep cool.

P405: Store locked up.

Disposal:

P501: Dispose of contents/container to ...

Symbol(s):



Signal Word: Danger

Hazard(s):

H225: Highly flammable liquid and vapor

H319: Causes serious eye irritation

H361: Suspected of damaging fertility or the unborn child

H370: Causes damage to organs **H335:**

May cause respiratory irritation **H336:**

May cause drowsiness or dizziness

H372: Causes damage to organs through prolonged or repeated exposure

Prevention:

P233: Keep container tightly closed.

P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P240: Ground/Bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting/.../equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P260: Do not breathe dust/fume/gas/mist/vapors/spray.

P264: Wash ... thoroughly after handling.

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P270: Do not eat, drink or smoke when using this product.

Response:

P308+P313: IF exposed or concerned: Get medical advice/attention.

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical advice/attention.

P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P312: Call a POISON CENTER or doctor/physician if you feel unwell.

P321: Specific treatment (see ... on this label).

P370+P378: In case of fire: Use ...for extinction.

Storage:

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P403+P235: Store in a well-ventilated place. Keep cool.

P405: Store locked up.

Disposal:

P501: Dispose of contents/container to ...

Symbol(s):



Signal Word: Danger

Hazard(s):

H225: Highly flammable liquid and vapor

Prevention:

P233: Keep container tightly closed.

P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P240: Ground/Bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting/.../equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P370+P378: In case of fire: Use ... for extinction.

Storage:

P403+P235: Store in a well-ventilated place. Keep cool.

Disposal:

P501: Dispose of contents/container to ...

New Zealand GHS Classifications

Classifications below according to the Environmental Risk Management Authority's (ERMA) Hazardous Substances and New Organisms (HSNO) Act, as amended.

METHYL ALCOHOL (67-56-1) Approval: HSR001186

Flammable liquids - Category 2

H225 Highly flammable liquid and vapor.

Acute toxicity - Oral - Category 4

H302 Harmful if swallowed.

Serious eye damage/eye Irritation - Category 2A

H319 Causes serious eye irritation.

Reproductive Toxicity - Category 2
unborn child.

H361 Suspected of damaging fertility or the

Specific target organ toxicity/Single exposure- Inhalation Category 1

H370 Causes damage to eyes and/or nervous system if inhaled.

Terrestrial Vertebrate Eco toxicity - Category 3

H433 Harmful to terrestrial vertebrates.

New Zealand GHS Labeling Information

Labeling information below according to classifications published by New Zealand's Environmental Risk Management Authority's (ERMA) Hazardous Substances and New Organisms (HSNO) Act, as amended.

METHYL ALCOHOL (67-56-1)

Symbol(s):



Signal Word: Danger

Hazard(s):

- H225: Highly flammable liquid and vapor
- H302: Harmful if swallowed
- H319: Causes serious eye irritation
- H361: Suspected of damaging fertility or the unborn child
- H370: Causes damage to organs
- H433: Harmful to terrestrial vertebrates

Prevention:

- P233: Keep container tightly closed.
- P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P240: Ground/Bond container and receiving equipment.
- P241: Use explosion-proof electrical/ventilating/lighting/.../equipment.
- P242: Use only non-sparking tools.
- P243: Take precautionary measures against static discharge.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P260: Do not breathe dust/fume/gas/mist/vapors/spray.
- P264: Wash ... thoroughly after handling.
- P201: Obtain special instructions before use.
- P202: Do not handle until all safety precautions have been read and understood.
- P270: Do not eat, drink or smoke when using this product.

Response:

- P308+P313: IF exposed or concerned: Get medical advice/attention.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313: If eye irritation persists: Get medical advice/attention.
- P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P321: Specific treatment (see ... on this label).
- P330: Rinse mouth.
- P370+P378: In case of fire: Use ... for extinction.

Storage:

P403+P235: Store in a well-ventilated place. Keep cool.

P405: Store locked up.

Disposal:

P501: Dispose of contents/container to ...

Taiwan GHS Classifications

METHYL ALCOHOL (67-56-1)

Taiwan:	Flammable liquids - Category 2	H225 Highly flammable liquid and vapor.
	Serious eye damage/eye Irritation - Category 2	H319 Causes serious eye irritation.
	Reproductive Toxicity - Category 2	H361 Suspected of damaging fertility of the unborn child.
	Specific target organ toxicity/Repeated exposure Category 1	H372 Causes damage to organs through prolonged or repeated exposure.

**Taiwan GHS Labeling Information
METHYL ALCOHOL (67-56-1)**

Symbol(s):



Signal Word: Danger

Hazard(s):

H225: Highly flammable liquid and vapor

H319: Causes serious eye irritation

H361: Suspected of damaging fertility or the unborn child

H372: Causes damage to organs through prolonged or repeated exposure

Prevention:

P233: Keep container tightly closed.

P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P240: Ground/Bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting/.../equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P260: Do not breathe dust/fume/gas/mist/vapors/spray.

P264: Wash ... thoroughly after handling.

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P270: Do not eat, drink or smoke when using this product.

Response:

P308+P313: IF exposed or concerned: Get medical advice/attention.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical advice/attention.

P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P370+P378: In case of fire: Use ... for extinction.

Storage:

P403+P235: Store in a well-ventilated place. Keep cool.

P405: Store locked up.

Disposal:

P501: Dispose of contents/container to ...

15.2. **Chemical Safety Assessment:**

ComStar has not conducted a chemical safety assessment for this product.

16. Other information

16.1. Training Advice:

Provide safety information, instruction and training to operators handling Methanol.

The information and recommendations herein are taken from data contained in independent, industry recognized references. Although reasonable care has been taken in the preparation of the information herein, ComStar Make no guarantee, warranty (express or implied) or other representation and assume no responsibility as to the accuracy or suitability of such information for application of the information, since conditions of its use are beyond control of these companies. ComStar shall not bear any liability whatsoever for any loss or damage incurred in connection with the use of this substance.